NOTICE OF REVISION (NOR)

(See MIL-STD-480 for instructions)
This revision described below has been authorized for the document listed.

DATE (YYMMDD)
93-03-26

Form Approved
OMB No. 0704-0188

1. ORIGINATOR NAME AND ADDRESS

Defense Electronics Supply Center
Dayton, Ohio 45444-5270

2. CAGE CODE
67268

3. NOR NO.
5962-R115-93

4. CAGE CODE
67268

5. DOCUMENT NO.
5962-87563

6. TITLE OF DOCUMENT

MICROCIRCUIT, DIGITAL, ECL, HEX D MASTER SLAVE FLIP-FLOP WITH RESET, MONOLITHIC SILICON

7. REVISION LETTER

B (Current)

C (New)

8. ECP NO.
N/A

9. CONFIGURATION ITEM (OR SYSTEM) TO WHICH ECP APPLIES

All

10. DESCRIPTION OF REVISION

Sheet 1: Revisions ltr column; add "C".
Revisions description column; add "Changes in accordance with NOR 5962-R115-93".
Revisions date column; add "93-03-26".
Revision level block; change from "B" to "C".
Rev status of sheets, for sheets 1 and 4; change from "B" to "C".

Sheet 4: Table I, low level input current, I_{IL}, conditions column;
change V_{EE} from "-4.95 V" to "-4.94 V".
Revision level block; change from "B" to "C".

11. THIS SECTION FOR GOVERNMENT USE ONLY

a. CHECK ONE

[X] EXISTING DOCUMENT SUPPLEMENTED BY THIS NOR MAY BE USED IN MANUFACTURE.

[ ] REVISED DOCUMENT MUST BE RECEIVED BEFORE MANUFACTURER MAY INCORPORATE THIS CHANGE.

[ ] CUSTODIAN OF MASTER DOCUMENT SHALL MAKE ABOVE REVISION AND FURNISH REVISED DOCUMENT TO:

b. ACTIVITY AUTHORIZED TO APPROVE CHANGE FOR GOVERNMENT	SIGNATURE AND TITLE	DATE (YYMMDD)
DESC-ECC	Monica L. Poelking Chief, Custom Microelectronics	93-03-26
12. ACTIVITY ACCOMPLISHING REVISION	REVISION COMPLETED (Signature)	DATE (YYMMDD)
DESC-ECC	Thanh V. Nguyen	93-03-26

REVISIONS

LTR	DESCRIPTION	DATE (YR-MO-DA)	APPROVED
A	Page 8, terminal connections, changed to table form. Technical changes to 1.4, table I and II. Changes to figure 4. Editorial changes throughout.	89-4-12	M. A. Frye
B	Technical changes to table I. Changes to figures 2 and 4. Editorial changes throughout.	92-4-15	Monica L. Poelking

REV																				
SHEET																				
REV																				
SHEET																				

REV STATUS OF SHEETS																
REV	B	B	B	B	B	B	B	B	B	B	B	B	B	B		
SHEET	1	2	3	4	5	6	7	8	9	10	11	12	13			

PMIC N/A

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DRAWING APPROVAL DATE
7 July 1987

REVISION LEVEL
B

DEFENSE ELECTRONICS SUPPLY CENTER
DAYTON, OHIO 45444

STANDARDIZED MILITARY DRAWING

THIS DRAWING IS AVAILABLE FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE

AMSC N/A

MICROCIRCUIT, DIGITAL, ECL, HEX D MASTER SLAVE FLIP-FLOP WITH RESET, MONOLITHIC SILICON

SIZE	CAGE CODE	
A	**67268**	**5962-87563**

SHEET 1 OF 13

DESC FORM 193
JUL 91

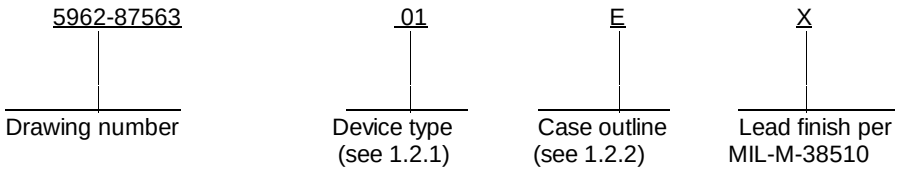
5962-E432

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

1. SCOPE

1.1 Scope. This drawing describes device requirements for class B microcircuits in accordance with 1.2.1 of MIL-STD-883, "Provisions for the use of MIL-STD-883 in conjunction with compliant non-JAN devices".

1.2 Part or Identifying Number (PIN). The complete PIN shall be as shown in the following example:



1.2.1 Device type(s). The device type(s) shall identify the circuit function as follows:

Device type	Generic number	Circuit function
01	10H586	Hex D master slave flip-flop with reset

1.2.2 Case outline(s). The case outline(s) shall be as designated in appendix C of MIL-M-38510, and as follows:

Outline letter	Case outline
E	D-2 (16-lead, .840" x .310" x .200"), dual-in-line package
F	F-5 (16-lead, .440" x .285" x .085"), flat package
2	C-2 (20-terminal, .358" x .358" x .100"), square chip carrier package

1.3 Absolute maximum ratings.

Supply voltage range (V_{EE}) . . . . . -8.0 V dc minimum to 0.0 V dc maximum
Input voltage range . . . . . -5.2 V dc to 0.0 V dc
Storage temperature range . . . . . -65°C to +165°C
Lead temperature (soldering, 10 seconds) . . . . . +300°C
Junction temperature (T_J) . . . . . +165°C
Maximum power dissipation (P_D) . . . . . 705 mW
Thermal resistance, junction-to-case (Θ_{JC}): . . . . . See MIL-M-38510, appendix C

1.4 Recommended operating conditions.

Supply voltage range (V_{EE}) . . . . . -5.46 V dc minimum to -4.94 V dc maximum
Supply voltage range (V_{CC}) . . . . . -0.02 V to 0.02 V or 1.98 V to 2.02 V
Ambient operating temperature range (T_A) . . . . . -55°C to +125°C
Minimum high level input voltage (V_{IH}):
T_A = +25°C . . . . . -0.780 V
T_A = +125°C . . . . . -0.650 V
T_A = -55°C . . . . . -0.840 V
Maximum low level input voltage (V_{IL}) . . . . . -1.950 V

2. APPLICABLE DOCUMENTS

2.1 Government specification, standard, and bulletin. Unless otherwise specified, the following specification, standard, and bulletin of the issue listed in that issue of the Department of Defense Index of Specifications and Standards specified in the solicitation, form a part of this drawing to the extent specified herein.

SPECIFICATION

MILITARY

MIL-M-38510 - Microcircuits, General Specification for.

STANDARD

MILITARY

MIL-STD-883 - Test Methods and Procedures for Microelectronics.

BULLETIN

MILITARY

MIL-BUL-103 - List of Standardized Military Drawings (SMD's).

(Copies of the specification, standard, and bulletin required by manufacturers in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting activity.)

2.2 Order of precedence. In the event of a conflict between the text of this drawing and the references cited herein, the text of this drawing shall take precedence.

3. REQUIREMENTS

3.1 Item requirements. The individual item requirements shall be in accordance with 1.2.1 of MIL-STD-883, "Provisions for the use of MIL-STD-883 in conjunction with compliant non-JAN devices" and as specified herein.

3.2 Design, construction, and physical dimensions. The design, construction, and physical dimensions shall be as specified in MIL-M-38510 and herein.

3.2.1 Case outline(s). The case outline(s) shall be in accordance with 1.2.2 herein.

3.2.2 Terminal connections. The terminal connections shall be as specified on figure 1.

3.2.3 Truth table. The truth table shall be as specified on figure 2.

3.2.4 Logic diagram and clocked truth table. The logic diagram and clocked truth table shall be as specified on figure 3.

3.2.5 Test circuit and switching waveforms. The test circuit and switching waveforms shall be as specified on figure 4.

3.3 Electrical performance characteristics. Unless otherwise specified herein, the electrical performance characteristics are as specified in table I and shall apply over the full ambient operating temperature range.

3.4 Electrical test requirements. The electrical test requirements shall be the subgroups specified in table II. The electrical tests for each subgroup are described in table I.

TABLE I. Electrical performance characteristics.

Test	Symbol	Conditions $-55°C \le T_A \le +125°C$ unless otherwise specified			Group A subgroups	Limits		Unit
						Min	Max	
Cases E, F, and 2		Quiescent conditions 1/						
High level output voltage	V_{OH}	Outputs terminated through 100Ω to -2.0 V V_{CC} = 0.0 V V_{EE} = -5.2 V 2/	V_{IH}	V_{IL}				
			-0.780	-1.950	1	-1.010	-0.780	V
			-0.650	-1.950	2	-0.860	-0.650	
			-0.840	-1.950	3	-1.060	-0.840	
Low level output voltage	V_{OL}		-0.780	-1.950	1	-1.950	-1.580	V
			-0.650	-1.950	2	-1.950	-1.565	
			-0.840	-1.950	3	-1.950	-1.610	
High level threshold output voltage	V_{OHA}		-1.110	-1.480	1	-1.010	-0.780	V
			-0.960	-1.465	2	-0.860	-0.650	
			-1.160	-1.510	3	-1.060	-0.840	
Low level threshold output voltage	V_{OLA}		-1.110	-1.480	1	-1.950	-1.580	V
			-0.960	-1.465	2	-1.950	-1.565	
			-1.160	-1.510	3	-1.950	-1.610	
Power supply drain 3/ current	I_{EE}	V_{EE} = -5.46 V V_{CC} = 0.0 V V_{IH} = -0.780 V at +25°C = -0.650 V at +125°C = -0.840 V at -55°C			1 2, 3	-110 -121		mA
High level input current	I_{IH1}		D_0, D_1, D_2, D_3, D_4, D_5 inputs		1 2, 3		265 430	µA
	I_{IH2}		CLK input		1 2, 3		420 670	
	I_{IH3}		Reset input		1 2, 3		1200 1900	
Low level input current	I_{IL}	V_{EE} = -4.95 V V_{IL} = -1.950 V V_{CC} = 0.0 V			1, 3 2	0.5 0.3		µA
Functional tests		See 4.3.1c			7, 8			

See footnotes at the end of table.

TABLE I. Electrical performance characteristics - Continued.

Test	Symbol	Conditions $-55°C \le T_A \le +125°C$ unless otherwise specified			Group A subgroups	Limits		Unit
						Min	Max	
Cases E and F		DC rapid test conditions 4/						
High level output voltage	V_{OH}	Outputs terminated through 100Ω to -2.0 V V_{CC} = 0.0 V V_{EE} = -5.2 V 2/	V_{IH}	V_{IL}				
			-0.809	-1.950	1	-1.037	-0.809	V
			-0.682	-1.950	2	-0.890	-0.682	
			-0.872	-1.950	3	-1.090	-0.872	
Low level output voltage	V_{OL}		-0.809	-1.950	1	-1.950	-1.589	V
			-0.682	-1.950	2	-1.950	-1.575	
			-0.872	-1.950	3	-1.950	-1.620	
High level threshold output voltage	V_{OHA}		-1.137	-1.489	1	-1.037	-0.809	V
			-0.990	-1.475	2	-0.890	-0.682	
			-1.190	-1.520	3	-1.090	-0.872	
Low level threshold output voltage	V_{OLA}		-1.137	-1.489	1	-1.950	-1.589	V
			-0.990	-1.475	2	-1.950	-1.575	
			-1.190	-1.520	3	-1.950	-1.620	
Power supply drain 3/ current	I_{EE}	V_{EE} = -5.46 V V_{CC} = 0.0 V V_{IH} = -0.809 V at +25°C = -0.682 V at +125°C = -0.872 V at -55°C			1	-109		mA
					2, 3	-120		
High level input current	I_{IH1}		D_0, D_1, D_2, D_3, D_4, D_5 inputs		1		250	µA
					2, 3		415	
	I_{IH2}		CLK input		1		405	
					2, 3		655	
	I_{IH3}		Reset input		1		1185	
					2, 3		1885	
Low level input current	I_{IL}	V_{EE} = -4.94 V V_{IL} = -1.950 V V_{CC} = 0.0 V			1, 3	0.5		µA
					2	0.3		
Functional tests		See 4.3.1c			7, 8			

See footnotes at the end of table.

TABLE I. Electrical performance characteristics - Continued.

Test	Symbol	Conditions $-55°C \le T_A \le +125°C$ unless otherwise specified			Group A subgroups	Limits		Unit
						Min	Max	
Case 2		DC rapid test conditions 4/						
High level output voltage	V_{OH}	Outputs terminated through 100Ω to -2.0 V V_{CC} = 0.0 V V_{EE} = -5.2 V 2/	V_{IH}	V_{IL}				
			-0.812	-1.950	1	-1.040	-0.812	V
			-0.685	-1.950	2	-0.893	-0.685	
			-0.875	-1.950	3	-1.093	-0.875	
Low level output voltage	V_{OL}		-0.812	-1.950	1	-1.950	-1.590	V
			-0.685	-1.950	2	-1.950	-1.576	
			-0.875	-1.950	3	-1.950	-1.621	
High level threshold output voltage	V_{OHA}		-1.140	-1.490	1	-1.040	-0.812	V
			-0.993	-1.476	2	-0.893	-0.685	
			-1.193	-1.521	3	-1.093	-0.875	
Low level threshold output voltage	V_{OLA}		-1.140	-1.490	1	-1.950	-1.590	V
			-0.993	-1.476	2	-1.950	-1.576	
			-1.193	-1.521	3	-1.950	-1.621	
Power supply drain 3/ current	I_{EE}	V_{EE} = -5.46 V V_{CC} = 0.0 V V_{IH} = -0.812 V at +25°C = -0.685 V at +125°C = -0.875 V at -55°C			1 2, 3	-109 -120		mA
High level input current	I_{IH1}		D_0, D_1, D_2, D_3, D_4, D_5 inputs		1 2, 3		250 415	µA
	I_{IH2}		CLK input		1 2, 3		405 655	
	I_{IH3}		Reset input		1 2, 3		1185 1885	
Low level input current	I_{IL}	V_{EE} = -4.94 V V_{IL} = -1.950 V V_{CC} = 0.0 V			1, 3 2	0.5 0.3		µA
Functional tests		See 4.3.1c			7, 8			

See footnotes at the end of table.

TABLE I. Electrical performance characteristics - Continued.

Test	Symbol	Conditions $-55°C \le T_A \le +125°C$ unless otherwise specified	Group A subgroups	Limits		Unit
				Min	Max	
Case E, F, and 2		AC test conditions				
Propagation delay time input to output	t_{PHL}	V_{EE} = -2.94 V V_{CC} = 2.0 V $C_L \le 5$ pF load all outputs through 100Ω to GND See figure 4	9 10 11	0.7 0.7 0.7	2.7 3.0 3.0	ns
	t_{PLH}		9 10 11	0.7 0.7 0.7	2.7 3.0 3.0	ns
Setup time	t_s		9 10 11	1.5 1.5 1.5		ns
Hold time	t_h		9 10 11	1.0 1.0 1.0		ns
Rise time Fall time	t_r t_f		9 10 11	0.7 0.7 0.7	2.4 2.6 2.6	ns
Toggle frequency	f_{tog}		9 10 11	250 250 250		MHz

1/ The quiescent limits are determined after a device has reached thermal equilibrium. This is defined as the reading taken with the device in a socket with ≥ 500 LFPM of +25°C, +125°C or -55°C (as applicable) air blowing on the unit in a transverse direction with power applied for at least 4 minutes before the reading is taken. This method was used for theoretical limit establishment only. All devices shall be tested to the delta V (rapid test) conditions specified herein. The rapid test method is an equivalent method of testing quiescent conditions.

2/ The high and low level output current varies with temperature, and shall be calculated using the following formulas:
$I_{OH} = (-2 V - V_{OH})/100Ω$
$I_{OL} = (-2 V - V_{OL})/100Ω$

3/ The I_{EE} limits, although specified in the minimum column, shall not be exceeded, in magnitude, as a maximum value.

4/ The dc rapid test forcing functions and limits are used for all dc testing. These limits are determined for each device type based on the power dissipation and package type. The rapid test (delta V) limits and forcing functions are skewed allowing rapid testing to be performed at standard temperatures without the addition of delta T's.

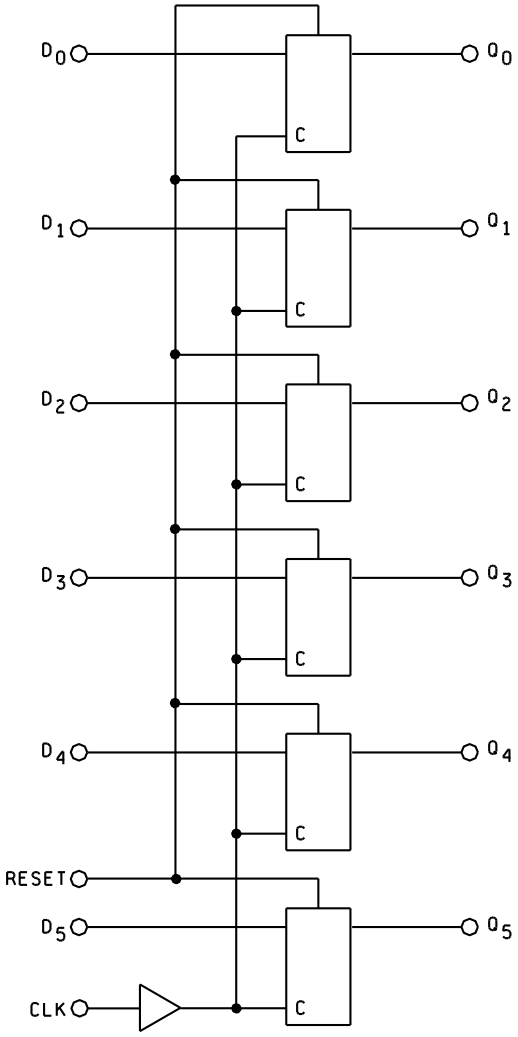
Device type	01		
Case outlines	E	F	2
Terminal number	Terminal symbol		
1	Reset	Q_3	NC
2	Q_0	Q_4	Reset
3	Q_1	Q_5	Q_0
4	Q_2	V_{CC}	Q_1
5	D_0	Reset	Q_2
6	D_1	Q_0	NC
7	D_2	Q_1	D_0
8	V_{EE}	Q_2	D_1
9	CLK	D_0	D_2
10	D_3	D_1	V_{EE}
11	D_4	D_2	NC
12	D_5	V_{EE}	CLK
13	Q_3	CLK	D_3
14	Q_4	D_3	D_4
15	Q_5	D_4	D_5
16	V_{CC}	D_5	NC
17	---	---	Q_3
18	---	---	Q_4
19	---	---	Q_5
20	---	---	V_{CC}

NC = No connection

FIGURE 1. Terminal connections.

D_0	D_1	D_2	D_3	D_4	D_5	CLK	Reset	Q_0	Q_1	Q_2	Q_3	Q_4	Q_5	
0	0	0	0	0	0	0	0	-	-	-	-	-	-	Clear
0	0	0	0	0	0	1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	0	0	0	0	0	0	0	0	0	0	0	0	0	Clock 1 and 0 into all six flip-flops
1	0	0	0	0	0	1	0	1	0	0	0	0	0	
1	0	0	0	0	0	0	0	1	0	0	0	0	0	
0	1	0	0	0	0	0	0	1	0	0	0	0	0	
0	1	0	0	0	0	1	0	0	1	0	0	0	0	
0	1	0	0	0	0	0	0	0	1	0	0	0	0	
0	0	1	0	0	0	0	0	0	1	0	0	0	0	
0	0	1	0	0	0	1	0	0	0	1	0	0	0	
0	0	1	0	0	0	0	0	0	0	1	0	0	0	
0	0	0	1	0	0	0	0	0	0	1	0	0	0	
0	0	0	1	0	0	1	0	0	0	0	1	0	0	
0	0	0	1	0	0	0	0	0	0	0	1	0	0	
0	0	0	0	1	0	0	0	0	0	0	1	0	0	
0	0	0	0	1	0	1	0	0	0	0	0	1	0	
0	0	0	0	1	0	0	0	0	0	0	0	1	0	
0	0	0	0	0	1	0	0	0	0	0	0	1	0	
0	0	0	0	0	1	1	0	0	0	0	0	0	1	
0	0	0	0	0	1	0	0	0	0	0	0	0	1	
0	0	0	0	0	0	0	0	0	0	0	0	0	1	
0	0	0	0	0	0	1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	1	1	1	1	1	0	0	0	0	0	0	0	0	Toggle D with CLK low
0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	1	1	1	1	1	0	0	0	0	0	0	0	0	
1	1	1	1	1	1	1	0	1	1	1	1	1	1	
1	1	1	1	1	1	0	0	1	1	1	1	1	1	
0	0	0	0	0	0	0	0	1	1	1	1	1	1	
1	1	1	1	1	1	1	0	1	1	1	1	1	1	Toggle D with CLK high
0	0	0	0	0	0	1	0	1	1	1	1	1	1	
1	1	1	1	1	1	1	0	1	1	1	1	1	1	
1	1	1	1	1	1	0	0	1	1	1	1	1	1	
0	0	0	0	0	0	0	0	1	1	1	1	1	1	
0	0	0	0	0	0	1	0	0	0	0	0	0	0	
1	1	1	1	1	1	1	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	Reset check clock low
1	1	1	1	1	1	0	0	0	0	0	0	0	0	
1	1	1	1	1	1	1	0	1	1	1	1	1	1	
1	1	1	1	1	1	0	0	1	1	1	1	1	1	
1	1	1	1	1	1	0	1	0	0	0	0	0	0	

FIGURE 2. Function truth table.

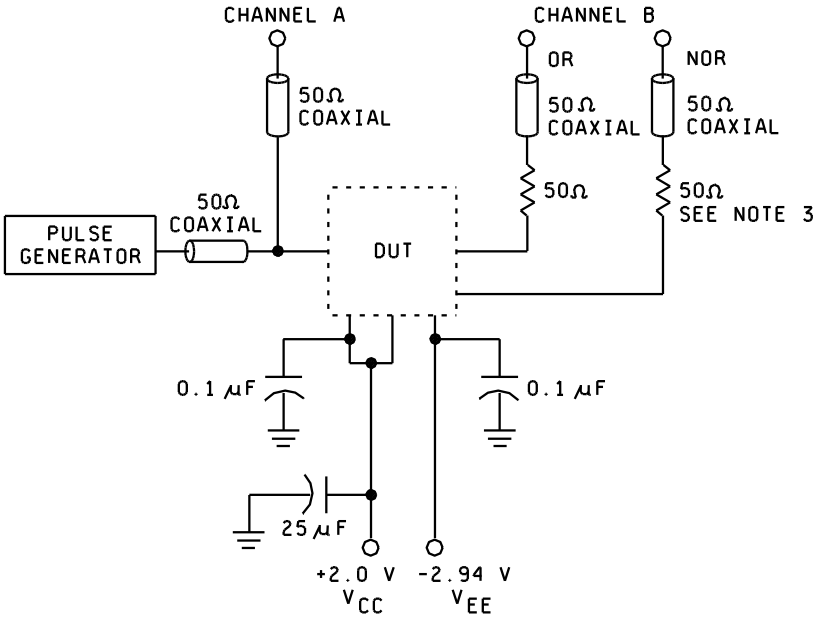


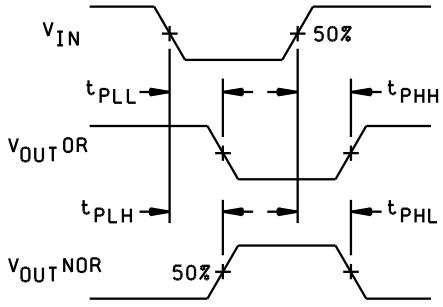
Inputs		Outputs	
Reset	CLK	Q	Q_{n+1}
L	L	X	Q_n
L	H	L	L
L	H	H	H
H	X	X	L

L = Low voltage level
H = High voltage level
X = Irrelevant

NOTE: A clock H is a clock transition from a low to a high state.

FIGURE 3. Logic diagram and clocked truth table.





NOTES:
1. Pulse generator characteristics:
   PRR = 1 MHz, $t_{THL} = t_{TLH}$ = 1.0 ±0.2 ns (20% to 80%), duty circle = 50%.
2. All other outputs are loaded through 100Ω to GND.
3. The 50Ω resistor in series with the 50Ω coaxial constitutes the 100Ω load.

FIGURE 4. Test circuit and switching waveforms.

3.5 Marking. Marking shall be in accordance with MIL-STD-883 (see 3.1 herein). The part shall be marked with the PIN listed in 1.2 herein. In addition, the manufacturer's PIN may also be marked as listed in MIL-BUL-103 (see 6.6 herein).

3.6 Certificate of compliance. A certificate of compliance shall be required from a manufacturer in order to be listed as an approved source of supply in MIL-BUL-103 (see 6.6 herein). The certificate of compliance submitted to DESC-ECC prior to listing as an approved source of supply shall affirm that the manufacturer's product meets the requirements of MIL-STD-883 (see 3.1 herein) and the requirements herein.

3.7 Certificate of conformance. A certificate of conformance as required in MIL-STD-883 (see 3.1 herein) shall be provided with each lot of microcircuits delivered to this drawing.

3.8 Notification of change. Notification of change to DESC-ECC shall be required in accordance with MIL-STD-883 (see 3.1 herein).

3.9 Verification and review. DESC, DESC's agent, and the acquiring activity retain the option to review the manufacturer's facility and applicable required documentation. Offshore documentation shall be made available onshore at the option of the reviewer.

4. QUALITY ASSURANCE PROVISIONS

4.1 Sampling and inspection. Sampling and inspection procedures shall be in accordance with section 4 of MIL-M-38510 to the extent specified in MIL-STD-883 (see 3.1 herein).

4.2 Screening. Screening shall be in accordance with method 5004 of MIL-STD-883, and shall be conducted on all devices prior to quality conformance inspection. The following additional criteria shall apply:

a. Burn-in test, method 1015 of MIL-STD-883.

(1) Test condition A, B, C, or D using the circuit submitted with the certificate of compliance (see 3.6 herein).

(2) T_A = +125°C, minimum.

b. Interim and final electrical test parameters shall be as specified in table II herein, except interim electrical parameter tests prior to burn-in are optional at the discretion of the manufacturer.

4.3 Quality conformance inspection. Quality conformance inspection shall be in accordance with method 5005 of MIL-STD-883 including groups A, B, C, and D inspections. The following additional criteria shall apply.

4.3.1 Group A inspection.

a. Tests shall be as specified in table II herein.

b. Subgroups 4, 5, and 6 in table I, method 5005 of MIL-STD-883 shall be omitted.

c. Subgroups 7 and 8 shall include verification of the truth table.

4.3.2 Groups C and D inspections.

a. End-point electrical parameters shall be as specified in table II herein.

b. Steady-state life test conditions, method 1005 of MIL-STD-883.

(1) Test condition D using the circuit submitted with the certificate of compliance (see 3.6 herein).

(2) T_A = +125°C, minimum.

(3) Test duration: 1,000 hours, except as permitted by method 1005 of MIL-STD-883.

TABLE II. Electrical test requirements.

MIL-STD-883 test requirements	Subgroups (per method 5005, table I)
Interim electrical parameters (method 5004)	1
Final electrical test parameters (method 5004)	1*, 2, 3, 7*, 8, 9
Group A test requirements (method 5005)	1, 2, 3, 7, 8, 9, 10, 11
Groups C and D end-point electrical parameters (method 5005)	1, 2, 3

* PDA applies to subgroups 1 and 7.

5. PACKAGING

5.1 Packaging requirements. The requirements for packaging shall be in accordance with MIL-M-38510.

6. NOTES

6.1 Intended use. Microcircuits conforming to this drawing are intended for use when military specifications do not exist and qualified military devices that will perform the required function are not available for OEM application. When a military specification exists and the product covered by this drawing has been qualified for listing on QPL-38510, the device specified herein will be inactivated and will not be used for new design. The QPL-38510 product shall be the preferred item for all applications.

6.2 Replaceability. Microcircuits covered by this drawing will replace the same generic device covered by a contractor-prepared specification or drawing.

6.3 Configuration control of SMD's. All proposed changes to existing SMD's will be coordinated with the users of record for the individual documents. This coordination will be accomplished in accordance with MIL-STD-481 using DD Form 1693, Engineering Change Proposal (Short Form).

6.4 Record of users. Military and industrial users shall inform Defense Electronics Supply Center when a system application requires configuration control and the applicable SMD. DESC will maintain a record of users and this list will be used for coordination and distribution of changes to the drawings. Users of drawings covering microelectronics devices (FSC 5962) should contact DESC-ECC, telephone (513) 296-6022.

6.5 Comments. Comments on this drawing should be directed to DESC-ECC, Dayton, Ohio 45444, or telephone 513-296-8525.

6.6 Approved sources of supply. Approved sources of supply are listed in MIL-BUL-103. The vendors listed in MIL-BUL-103 have agreed to this drawing and a certificate of compliance (see 3.6 herein) has been submitted to and accepted by DESC-ECC.

STANDARDIZED MILITARY DRAWING SOURCE APPROVAL BULLETIN

DATE: 92-4-15

Approved sources of supply for SMD 5962-87563 are listed below for immediate acquisition only and shall be added to MIL-BUL-103 during the next revision. MIL-BUL-103 will be revised to include the addition or deletion of sources. The vendors listed below have agreed to this drawing and a certificate of compliance has been submitted to and accepted by DESC-ECC. This bulletin is superseded by the next dated revision of MIL-BUL-103.

Standardized military drawing PIN	Vendor CAGE number	Vendor similar PIN 1/
5962-8756301EX	04713	10H586/BEAJC
5962-8756301FX	04713	10H586/BFAJC
5962-87563012X	04713	10H586M/B2AJC

1/ Caution. Do not use this number for item acquisition. Items acquired to this number may not satisfy the performance requirements of this drawing.

Vendor CAGE number	Vendor name and address
04713	Motorola, Incorporated 5005 East McDowell Road Phoenix, AZ 85008 Point of contact: 2100 East Elliot Road Tempe, AZ 85284